TEREBINSKIY, N.N., professor, zasluzhennyy deyatel' nauki.

History of surgery in Russia during the last fifty years; according to data of congresses of Russian and U.S.S.R. surgeons. Khirurgiia no.6:75-81 Je '55. (MLRA 8:10)
(SURGERY, history, in Russia)

TEREBINSKIY, V.G.

Mountain Loess of Southeast Kazakhstan. Materialy po inzh. geologii, No 4, 1953, 154-158

The loesses are distributed 400 to 500 meters in the foothills and along the slopes of the mountainous massifs at a height of as much as 2400 meters. The thickness of the loess covering is from a fraction of a meter to several dozen meters. With increasing altitudes of the occurrence of loesses the clayey content increases and the sandy content decreases. The zonality of the loesses according to granulometric composition convinced the author of their aeolian origin. (RZhGeol, 1, 1954)

SO: W-31128, 11 Jan 55

TEREBKOVA, L. S.

"Vascular Bacteriosis of Kok-Saghyz Roots." Cand Agr Sci, All-Union Sci-Res Inst of Plants Protection, Leningrad, 1953. (RZhBiol, No 5, Nov 54)

Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (11)

SO: Sum. No.521, 2 Jun 55

IVANOV, M.V.; TSHEBKOVA, L.S.

Studying microbiological processes associated with hydrogen sulfide formation in Lake Solenoye. Mikrobiologiia 28 no.2: 251-256 Mr-Ap '59. (MIRA 12:5)

1. Institut mikrobiologii AN SSSR.
(SOLENOYE, LAKE--BACTERIA) (HYDROGEN SULFIDE)

IVANOV, M.V.; TEREBKOVA, L.S.

Microbiological processes resulting in the formation of hydrogen sulfide in Lake Solenoye. Report No.2. Mikrobiologiia 28 no.3: 413-418 My-Je '59. (MIRA 13:3)

1. Institut mikrobiologii AN SSSR.
(SOLENOYE, LAKE--BACTERIA, SULFUR) (HYDROGEN SULFIDE)

TEREBOANTSE, G.I.

"The Effectiveness of Composite Silage in the Fattening of Pigs";

dissertation for the degree of Candidate of Agricultural Sciences (awarded by the Timiryazev Agricultural Academy, 1962)

(Izvestiya Timiryazevskoy Sel'skokhozyaystvennoy Akademii, Moscow, No. 2, 1963, pp 232-236)

TEREBOVA, K.

CZECHOSLOVAKIA/Analytical Chemistry - General Questions. E-1

Abs Jour : Ref Zhur - Khimiya, No 8, 1958, 24682

Author : Cihalik, J., Terebova, K.
Inst : -
Title : Use of Iodine Monochloride in Analytical Chemistry. VI. Determination of Hydrazine, Phenul Hydrazine, Hydroxylamine and Iodine Monochloride.

Orig Pub : Sb. chekhosl. khim. rabot, 1957, 22, No 3, 756-763

Abstract : See RZhKhim, 1957, 51545.

Card 1/1

TEKEBOVA, K.; CIHALIK, J.

Use of iodine chloride in analytic chemistry. VII. Determination of some analytically important organic compounds. p. 272. (Chemicke Listy, Vol. 51, no. 2, Feb. 1957.)

SO: Monthly List of East European Accession (EEAL) Vol. 6, no. 7, July 1957. Uncl.

TEREBOVA, K

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Organic Substances. E-3

Abs Jour : Ref Zhur - Khim., No 10, 1958, No 32210

Author : Jaroslav Cihalik, Kveta Terebova.

Inst : -

Title : Use of Iodine Chloride in Analytic Chemistry. VIII. Determination of Some Analytically Important Organic Substances.

Orig Pub : Chem. listy, 1957, 51, No 2, 272-277; Collect. czechoal. chem. communs, 1958, 23, No 1, 110-115.

Abstract : The potentiometric titration with ICL solution described in the foregoing reports was used for the determination of mercaptobenzothiazole (I), 8-oxyquinoline (II) and anthranilic acid, (III). I reacts according to the equation $2C_7H_4SN.SH + I^+ \longrightarrow C_7H_4SN.S\text{-}S.NSH_4C_7 + I^- + 2H^+$. ICl oxidizes I^- to I_2 in the second reaction stage. The corres-

Card 1/2

CZECHOSLOVAKIA / Analytical Chemistry. Analysis of Organic Substances. E-3

Abs Jour : Ref Zhur - Khim., No 10, 1958, No 32210

ponding titration curve has 2 potential jumps; both the titration points can be used for the analytic determination. The formation of I_2 permits to titrate in the presence of starch. Titration is carried out in a neutral or weakly acid medium. II reacts according to the equation $C_9H_7ON + 2I^+ \rightarrow C_9H_5ONI_2 + 2H^+$ (iodination of II to the 5,7-diiodo derivative) and it is potentiometrically titrated directly with ICl solution in a very dilute (about $5 \cdot 10^{-4}$ M) solution at pH above 2, adjusted by the addition of NH_4OH. The titration of III proceeds in accordance with the equation $C_7H_7O_2N + 2I^+ \rightarrow C_7H_5O_2NI_2 + 2H^+$ (iodination reaction) best in a very dilute ($2 \cdot 10^{-4}$ to $5 \cdot 10^{-4}$ M) weakly acid solution. I, II and III produce insoluble precipitates with cations of many bivalent and trivalent metals, which can be used for their quantitative determination. See report VII in RZhKhim, 1958, 32232.

Card 2/2

22

TEREBUCHA, E.,

RACHUNKOWOSC W TRANSPORCIE [illegible]. Vols. I & II. (ACCOUNTING IN INTERNATIONAL TRANSPORTATION). Zaklad Panstwowy Wydawnictw [illegible], Szczecin, 195?,

[illegible] p.

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320007-1"

TERE?CHA, E.

The problem of improving the cost accounting of Polish State Railroads. p. 213.

Vol. 7, no. 6, June 1955

PRZEGLAD KOLEJOWY, Warszawa

SOURCE: East European Accessions List (EEAL), LC, Vol. 5, no. 2, Feb. 1956

LAKH, V.I.; PROKHORENKO, V.Ya.; TEREBUKH, L.S.; KISLYY, P.S.; PANASYUK, A.D.; SAMSONOV, G.V.

Temperature measurement of the atmosphere of an aluminum electrolysis cell. TSvet. met. 34 no.8:38-40 Ag '61. (MIRA 14:9)
(Aluminum—Electrometallurgy)

LAKH, V.I.; PORTAK, R.A.; TEREBUKH, L.S.

Prolonged measurement of the temperature of melts in aluminum electrolyzers. Porosh. met. 5 no.1:96-97 Ja '65. (MIRA 18:10)

1. Konstruktorskoye byuro "Termopribor".

TEREBUKH, YE. PA 51T27

POLAND/Geography Jan/Feb 1948

"Meeting of Geographers in Poland," Ye. Terebukh, ¼ p

"Izv Vsesoyuz Geograf Obsh" Vol LXXX, No 1

Convention of Polish Geographers held in Stettin in May 1947. Dedicated mainly to discussing geographic problems of the western territory of Poland, annexed after the war.

51T27

USSR/Diseases of Farm Animals. Diseases Caused by Viruses and Rickettsiae R

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40658.

Author : Pamkov, V. A. Bezprozvannyy, B. K., Narskiy, S. V., Terebun, N. Ye.

Inst :

Title : Infectious Hepatitis in Dogs.

Orig Pub: Veterinariya, 1957, 34 No 8, 39-44.

Abstract: Enzooty of infectious hepatitis in a service dog nursery was observed by the authors. Mainly, puppies of the ages from two to five months took sick, predominantly during the spring and fall seasons. In most of the cases the disease proceeded benignantly, with the exception of the still sucking puppies who all died within a few days without distinct clinical

Card : 1/3

USSR/Diseases of Farm Animals. Diseases Caused by Viruses and Rickettsiae.

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40658.

data being available. The basic symptoms of the disease were rise in temperature, tonsilitis, sometimes accompanied by throat edema, labored breathing with severe hoarseness; some of the puppies vomitted in the later stages of the disease, developed keratites, diarrhea, mixed with blood at times, had severe pain in the lower abdomen which was revealed by palpation. Some of the animals showed the effects of excitation. In a hyperacute course of the disease, death ensued a few hours after appearance of clinical symptoms; in acute cases the disease lasted three to seven days. Usually, up to 10 percent of the animals died. Morphological examination revealed changes characteristic of infectious hepatitis in dogs.

Card : 2/3 36

USSR/Diseases of Farm Animals. Diseases Caused by Viruses R
and Rickettsiae.

Abs Jour: Ref Zhur-Biol., No 9, 1958, 40658.

Bacteriological examination revealed the presence of a microflora, but without etiological significance. The diseased puppies were treated with penicillin, sulfamide preparations and by general therapeutic methods. Keratites disappeared most of the time without medical interference. Improvement of feeding and keeping helped to reduce the number of afflicted cases and assisted in furthering a benignant course of the enzooties.

Card : 3/3

124-57-2-2177

Translation from: Referativnyy zhurnal, Mekhanika, 1957, Nr 2, p 101 (USSR)

AUTHOR: Terebushko, O. I.

TITLE: The Stability and Working Subsequent to Collapse of Cylindrical Panels Equipped With Stiffening Ribs (Ustoychivost' i rabota posle poteri ustoychivosti szhimayemykh, podkreplennykh rebrami, tsilindricheskikh paneley)

PERIODICAL: Izv. LatvSSR, 1956, Nr 1, pp 111-130

ABSTRACT: The stability of thin cylindrical panels equipped with longitudinal elastic ribs is examined. The panel rests freely on four edges on a rigid rectangular contour. Compressive stresses parallel to the generatrices, are applied to the circular end contours which remain parallel to themselves when displaced. The longitudinal edges of the shell, which are supported by the intermediate longitudinal ribs, can slide freely along them. The intermediate longitudinal ribs are elastic (taking into account their flexure, compression, and torsion) whereas the edges of the shell are rigid. Ritz's method is employed. The approximating function is given in two terms:

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124-57-2-2177

The Stability and Working Subsequent to Collapse of Cylindrical Panels (cont.)

$$W_I = f_1 \sin\frac{\pi x}{a} \sin\frac{\pi y}{b} + f_2 \sin\frac{n\pi x}{a} \sin\frac{n\pi y}{b} + f_3 \sin^2\frac{n\pi x}{a} \sin^2\frac{n\pi y}{b}$$

$$W_{II} = f_1 \sin^2\frac{\pi x}{a} \sin^2\frac{\pi y}{b} + f_2 \sin\frac{n\pi x}{a} \sin\frac{n\pi y}{b} + f_3 \sin^2\frac{n\pi x}{b} \sin^2\frac{\pi y}{b}$$

where f_1, f_2, and f_3 are constants; a and b are the sides of the panel; and x and y are the axial and peripheral coordinates. A system of cubic equations is obtained for the determination of the parameters of the deflection of a shell beyond the limits of stability and the lower critical stress p^* for the shell is evaluated. An analysis of the effect of the assumed forms of flexure on p^* is performed. A number of practical hints relative to the evaluation of the effect of stiffening ribs on the working of a shell are given, also formulas for p^* for shells of various curvature.

G. G. Rostovtsev

1. Cylindrical shells--Stability 2. Cylindrical shells--Mathematical analysis

Card 2/2

82803

S/124/60/000/004/022/027
A005/A001

24.4100
Translation from: Referativnyy zhurnal, Mekhanika, 1960, No. 4, p. 120, # 5044

AUTHOR: Terebushko, O.I.

TITLE: The Calculation of the Load-Carrying Capacity of a Circular Cylindrical Panel Reinforced With Ribs

PERIODICAL: V sb.: Raschet prostranstv. konstructsiy. No. 4, Moscow, Gosstroyizdat, 1958, pp. 531-554

TEXT: The stability of a freely supported thin sloping cylindric panel is considered which is reinforced with rigid transversal and longitudinal ribs and subjected to axial compression. It is assumed that the shell slides freely along both the longitudinal and transversal ribs, i.e., the effect of shear stresses is neglected, which are caused by the interaction of the ribs and the shell. The number of the transversal ribs is equal to three (two ribs at the edges and one in the middle). However, the existence of these ribs does not affect practically the results; therefore, only the longitudinal reinforcement will be considered further. The drawing together of the loaded curvilinear edges is assumed to be constant over the panel width. The flexures of the shell and its reinforcing

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82803
S/124/60/000/004/022/027
A005/A001

The Calculation of the Load-Carrying Capacity of a Circular Cylindrical Panel Reinforced With Ribs

longitudinal ribs are assumed to be finite, and the stresses do not exceed hereat the proportionality limit of the material. The nature of deformation of the longitudinal ribs reinforcing the cylindric shell depends, in the stability loss process of the panel on the mode of the connections between the rib and the shell. Three designs of connection between the shell and the reinforcing ribs are considered. The first design is characteristic for ribs of compact cross section or closed thin-walled profiles and allows only the flexure of the ribs in the xOz plane. The x line is directed along the shell axis, the y axis along the peripheral direction, and the z line to the center of curvature. The second design permits not only the rib flexure in the xOz plane, but also the torsion with respect to the contact line between the rib and the shell. The third design allows bending and torsion of the ribs, but the rib can not freely turn hereat around the contact line between the rib and the shell, i.e., the shell turns the rib through the same angle as it deforms itself. This mode of deformation takes place also in the case of a weak rib and a sufficiently thick shell. The problem was solved by the Ritz method. The potential energy of the rib deformation depending on the design assumed for the connection between the rib and the shell

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82803

S/124/60/000/004/022/027
A005/A001

The Calculation of the Load-Carrying Capacity of a Circular Cylindrical Panel Reinforced With Ribs

appears also in the expression of the energy of the system. The approximating function is given in two forms:

$$w_1 = f_1 \sin\frac{\pi x}{a} \sin\frac{\pi y}{b} + f_2 \sin\frac{n\pi x}{a} \sin\frac{m\pi y}{b} + f_3 \sin^2\frac{n\pi x}{a} \sin^2\frac{m\pi y}{b}$$

$$w_2 = f_1 \sin^2\frac{\pi x}{a} \sin^2\frac{\pi y}{b} + f_2 \sin\frac{n\pi x}{a} \sin\frac{m\pi y}{b} + f_3 \sin^2\frac{n\pi x}{a} \sin^2\frac{m\pi y}{b}$$

where f_1, f_2, and f_3 are constants, a is the distance between the adjacent transversal ribs, b is the width of the panel, m and n are the numbers of halfwaves of buckling between the ribs in direction of x and y. These two functions differ only in the first terms characterizing the general stability loss in the panel. The second and third terms of these expressions represent the formation of halfwaves at the local stability loss of the shell in the sections between the ribs. It is assumed that n halfwaves are formed in the section between the transversal ribs in the direction of the x axis, and one half wave in each section between the longitudinal ribs in direction of the y axis. A system of algebraic nonlinear

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S/124/60/000/004/022/027
A005/A001

The Calculation of the Load-Carrying Capacity of a Circular Cylindrical Panel Reinforced With Ribs

equations is found individually for each of the two approximating functions w_1 and w_2 for determining the parameters of the shell flexure depending on the applied axial load for the supercritical deformation of the shell. Formulae for the lower critical stresses p_* of local and summary losses of stability of the shell are found. The reinforcing effect of the longitudinal ribs was neglected, when determining the critical stress of the local stability loss in the sections between the ribs. Graphs are plotted of the main terms appearing in the expression for the lower critical stress, depending on the panel curvature k, for some panel parameters. The influence of the assumed approximating bending forms on p_* is analyzed. The influence of the different panel parameters (thickness of the sheet, number of ribs, their stiffness, the distance between the ribs, the aspect ratio, the panel curvature) on the value of the lower critical panel stress is studied. A scheme is given for performing the preliminary panel calculation project. Practical recommendations are given on the influence of the panel parameters on the panel performance. The comparison of the calculational and experimental data

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82803

S/124/60/000/004/022/027
A005/A001

The Calculation of the Load-Carrying Capacity of a Circular Cylindrical Panel Reinforced With Ribs

leads to satisfactory results according to the author's data. There are 7 references.

4

V.F. Karavanov

Translator's note: This is the full translation of the original Russian abstract.

Card 5/5

TEREBUSHKO, O.I. (Riga)

Strength of cylindrical shells subjected to rapidly applied axial loads. Stroi.mekh.i rasch.soor. 2 no.1: 10-12 '60. (MIRA 13:6)
(Elastic plates and shells)

TEREBUSHKO, O.I., kand.tekhn.nauk, dotsent

Strength analysis and design of cylindrical reinforced shells.
Rasch.prostr.konstr. no.7:119-134 '62. (MIRA 15:4)
(Roofs, Shell)

ACCESSION NR: AT4044286 S/2779/64/000/009/0131/0160

AUTHOR: Terebushko, O. I. (Docent, Candidate of technical sciences) (Moscow)

TITLE: Stability and permanent deformation of thin shells supported by sparsely spaced diaphragms

SOURCE: Raschet prostranstvenny*kh konstruktsiy; sbornik statey, no. 9, 1964, 131-160

TOPIC TAGS: computer shell design, digital computer, computer programming, shell deformation, shell design, shell diaphragm, wing design, rib spacing

ABSTRACT: The author describes shell design using digital computers, considering the interaction of the shell and diaphragm under a load, which has not been investigated previously. A cylindrical shell supported by annular and longitudinal diaphragms is considered under an axial load p and transverse pressure q. The differential equations for a cylindrical shell considering equilibrium and combined deformations with unknown functions of stress and deflection are

$$D\nabla^2\nabla^2\bar{w} = \bar{q} + \frac{\partial^2\bar{\varphi}}{\partial\bar{y}^2}\cdot\frac{\partial^2(\bar{w}+\bar{w}_0)}{\partial\bar{x}^2} + \frac{\partial^2\bar{\varphi}}{\partial\bar{x}^2}\left[\frac{1}{r} + \frac{\partial^2(\bar{w}+\bar{w}_0)}{\partial\bar{y}^2}\right] - 2\frac{\partial^2\bar{\varphi}}{\partial\bar{x}\,\partial\bar{y}}\cdot\frac{\partial^2(\bar{w}+\bar{w}_0)}{\partial\bar{x}\,\partial\bar{y}} \quad (1)$$

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$$\frac{1}{E}\nabla^2\nabla^2\bar{\varphi} = \left[\frac{\partial^2(\bar{w}+\bar{w}_0)}{\partial\bar{x}\,\partial\bar{y}}\right]^2 - \left(\frac{\partial^2\bar{w}_0}{\partial\bar{x}\,\partial\bar{y}}\right)^2 - \frac{\partial^2(\bar{w}+\bar{w}_0)}{\partial\bar{x}^2}\,\frac{\partial^2(\bar{w}+\bar{w}_0)}{\partial\bar{y}^2} + \frac{\partial^2\bar{w}_0}{\partial\bar{x}^2}\,\frac{\partial^2\bar{w}_0}{\partial\bar{y}^2} - \frac{1}{r}\cdot\frac{\partial^2\bar{w}}{\partial\bar{x}^2}. \tag{2}$$

For the edge points at the i diaphragm there are four limiting conditions:

$$(N_y)_{i-\Delta} - (N_y)_{i+\Delta} = 0; \tag{3}$$

$$(M_y)_{i-\Delta} - (M_y)_{i+\Delta} = m_i; \tag{4}$$

$$(N_{xy})_{i-\Delta} - (N_{xy})_{i+\Delta} = N_{xi}; \tag{5}$$

$$\left(\frac{\partial M_y}{\partial y}\right)_{i-\Delta} - \left(\frac{\partial M_y}{\partial y}\right)_{i+\Delta} + 2\left(\frac{\partial M_{xy}}{\partial x}\right)_{i-\Delta} - 2\left(\frac{\partial M_{xy}}{\partial x}\right)_{i+\Delta} = N_{zi}. \tag{6}$$

Fig. 1. in the Enclosure illustrates these equations. The equations are solved by a digital computer using the lattice method. For this purpose, the equations are transformed to

$$\frac{1}{12(1-\nu^2)}\left(\frac{1}{\lambda_n^2}\cdot\frac{\partial^4 w}{\partial x^4} + 2\frac{\partial^4 w}{\partial x^2 \partial y^2} + \lambda_n^2\frac{\partial^4 w}{\partial y^4}\right) = q^* + \frac{\partial^2(w+w_0)}{\partial x^2}\cdot\frac{\partial^2\varphi}{\partial y^2} + \frac{\partial^2\varphi}{\partial x^2}\left[K + \frac{\partial^2(w+w_0)}{\partial y^2}\right] - 2\frac{\partial^2(w+w_0)}{\partial x\partial y}\cdot\frac{\partial^2\varphi}{\partial x\partial y}; \tag{7}$$

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$$\frac{1}{\lambda_n^2}\cdot\frac{\partial^4\varphi}{\partial x^4}+2\frac{\partial^4\varphi}{\partial x^2\partial y^2}+\lambda_n^2\frac{\partial^4\varphi}{\partial y^4}=\left[\frac{\partial^2(w+w_0)}{\partial x\partial y}\right]^2-\left(\frac{\partial^2 w_0}{\partial x\partial y}\right)^2-$$
$$-\frac{\partial^2(w+w_0)}{\partial y^2}\cdot\frac{\partial^2(w+w_0)}{\partial x^2}+\frac{\partial^2 w_0}{\partial y^2}\cdot\frac{\partial^2 w_0}{\partial x^2}-K\frac{\partial^2 w}{\partial x^2}. \qquad (8)$$

The Seidel iterative method is then used. The block diagram for the computer program is included in the article. The author then goes on to consider the results of computer design. Curves are shown for different parameters of the compressed cylindrical panel of a shell with fixed ends. These curves show that the rigidity of the longitudinal diaphragms (prior to the loss of stability) actually does not influence the distribution of normal stress in the cross sections of the shell. Other factors are also analyzed on the basis of the computed curves. Deformations occurring when the limit of elasticity of the shell is passed are investigated. The deformation at the middle of the surface is expressed by deflections using the following dependencies relating to all parts of the shell:

$$\varepsilon_x=\frac{\partial\bar u}{\partial\bar x}+\frac{1}{2}\left(\frac{\partial\bar w}{\partial\bar x}\right)^2; \qquad \varkappa_x=-\frac{\partial^2\bar w}{\partial\bar x^2};$$
$$\varepsilon_y=\frac{\partial\bar v}{\partial\bar y}-\frac{\bar w}{r}+\frac{1}{2}\left(\frac{\partial\bar w}{\partial\bar y}\right)^2; \qquad \varkappa_y=-\frac{\partial^2\bar w}{\partial\bar y^2};$$
$$\gamma_{xy}=\frac{\partial\bar u}{\partial\bar y}+\frac{\partial\bar v}{\partial\bar x}+\frac{\partial\bar w}{\partial\bar x}\cdot\frac{\partial\bar w}{\partial\bar y}; \qquad \chi=-\frac{\partial^2\bar w}{\partial\bar x\,\partial\bar y} \qquad (9)$$

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Longitudinal forces in the cross sections of the shell are expressed by

$$N_x = B(\varepsilon_x + \nu\varepsilon_y); \quad M_x = -D\left(\frac{\partial^2 \bar{w}}{\partial \bar{x}^2} + \nu\frac{\partial^2 \bar{w}}{\partial \bar{y}^2}\right);$$

$$N_y = B(\varepsilon_y + \nu\varepsilon_x); \quad M_y = -D\left(\frac{\partial^2 \bar{w}}{\partial \bar{y}^2} + \nu\frac{\partial^2 \bar{w}}{\partial \bar{x}^2}\right); \tag{10}$$

$$N_{xy} = \frac{1-\nu}{2}B\gamma_{xy}; \quad M_{xy} = -D(1-\nu)\frac{\partial^2 \bar{w}}{\partial \bar{x}\,\partial \bar{y}}.$$

These equations are true for both elastic and plastic fields, although the coefficients vary. Finally, the author tested the interaction of the shell and the longitudinal diaphragms during loss of stability under axial compression. Thin steel shells were used with three steel diaphragms, and units were set on the shell for measuring its radial interaction with the diaphragms. Bending was also measured. In all cases, the loss of stability began near the faces of small dents of rhombic shape. Then bubbles

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ACCESSION NR: AT4044286

appeared on most of the shell surface with the convex part at the center. Figures 2 and 3 of the Enclosure show oscillograms of two samples, the first for a thin shell and the second for a thicker one. Numbers 1, 2, 3, 4 and 5 show the readings of the units measuring interaction of the shell and diaphragm; 6, 7 and 8 show the bending stresses in the shell, 9 shows the longitudinal compression force and 10 the bending stress in the diaphragm. These tests show that the type of effect of the shell on the supporting diaphragms depends on the bending strength of the supporting diaphragm and shell. A combination of weak shell and strong diaphragm leads to loss of diaphragm stability and the formation of a half-wave. For a strong shell and weak diaphragm the total loss of stability is accompanied by the formation of several waves along the length of the diaphragm. The investigations showed that the lattice method was effective for the computer program in both the elastic field and the elastic plastic field. It was also found that the shell supported the diaphragms. The sharp lowering of the reduction factor of the shell under permanent formation and increasing compression load shows that the employed shell material is of low efficiency. Orig art. has: 18 figures and 39 numbered equations.

ASSOCIATION: none

FOLAND/Chemicel Technology. Chemicel Froducts. Corrosion. Corrosion Frotection. H-4

Abs Jour : Ref Zhur - Khimiye, 1958, No 22, 74355

Author : Toroch W.
Inst : ~~Not Given~~
Title : Protective Coatings for the Underwater Parts of Boat Hulls

Orig Pub : Budown. okrot., 1958, 3, No 2, 54-49

Abstract : Review of protective coatings comprising phenol formaldehyde, vinyl, and other resins, chloroprene, asphaltic and Zn-coatings, used in combination with the cathode protection in the prevention of corrosion of the submerged portionof the boat hulls. Appropriate preparation of surfaces to be coated was found to be of basic importance in attaining high degree of protection. This should be coupled with the adherence to practices dictated by technological considerations peculiar to the type of a coating. Bibliography of 13 names.

Card : 1/1

TYRECH, W.

Application of transistors in the stabilization system of rockets. p. [illegible].

WOJSKOWY PRZEGLAD LOTNICZY. (Dowodztwo wojsk Lotniczynych) Warszawa, Poland.
Vol. 11, no. 9, Sept. 1958.

Monthly list of East European Accessions (EEAI) LC, Vol. 8, no. 7, July 1959.

Uncl.

TERECH, Wojciech, inz.

Device for the impregnation of electric motor windings with silicon lacquer on a repair mother ship. Bud okretowe Warszawa 9 no.7:249-251 Jl '64.

1. Central Ship Design Office No.2, Gdansk.

TERECHOV, A.

TERECHOV, A. Production of cinder blocks and their use in building. p. 89

Vol. 4, no. 3, Mar. 1956
POZEMNI STAVBY
TECHNOLOGY
Praha, Czechoslovakia

So: East European Accession Vol. 6, No. 2, 1957

S/243/62/000/007/001/001
I021/I215

AUTHORS: Boyko, I. D., Bylinkina, Ye. S., Terechova, V. F. and Nechayeva, M. G.

TITLE: Extraction of antibiotics from culture fluids without separation of mycelium

PERIODICAL: Meditsinskaya Promyshlennost SSR no. 7, 1962, 18-25

TEXT: Filtration of culture fluids as the first step in extraction of antibiotics is time consuming and results in a loss of 10 to 20% of antibiotics. Better results were obtained by a direct extraction method (Bartels C.R. Kleinman. G., Korzun, J. N. et al., Chem. Eng. Progr. v. 54, 1958, 49; Bartels, C. R., Kleinman G. U.. Patent 278631, 1956). This method has been successfully applied for the extraction of streptomycin by filtration through cationites КБ-4П-2 (KB-4P-2) and КБ-2 (KB-2) with the addition of 0.8–1.0% sodium to the culture fluid. This method saves time and increases the yield. There are 4 tables and 3 figures.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy institut antibiotikov (All-Union Institute of Antibiotics Research).

SUBMITTED: May 19, 1961

Card 1/1

TER-EGIAZAROV, G. M., kand. med. nauk; DOLGANOVA, A. A.

Results of open reduction of congenital dislocation of the hip by the Colonna method. Ortop., travm. i protez. 22 no.8:23-27 Ag '61.
(MIRA 14:12)

1. Iz kafedry gospital'noy khirurgii (zav. - prof. I. B. Oleshkevich) Vitebskogo meditsinskogo instituta.

(HIP JOINT—DISLOCATION)

TEREGULOV, A. G.

27940. TEREGULOV, A. G. -- Yazvennyy simpto mokompleks pri zabolevanii smezhnykh organov I sodruzhestvennye reaktsii pri yazvennoy bolezni. Trudy XIII vsesoyuz. S'yezda terapevtov. L., 19:9, S. 113-17.

SO: Letopis' Zhurnal'nykh Statey. Vol. 37, 1949.

TEREGULOV, A.G., professor, zasluzhennyy deyatel' nauki.(Kazan)

The school of physicians of Kazan; 150th anniversary of the V.I. Ul'ianov-Lenin University in Kazan. Klin. med., 33 no.10: 85-91 O '55. (MIRA 9:2)

(EDUCATION, MEDICAL, history
in Russia, Ul'ianov-Lenin university in Kazan)

USSR / Human and Animal Physiology (Normal and Pathological). T
Digestion.

Abs Jour : Ref Zhur - Biologiya, No 13, 1958, No. 60446

Author : Teregulov, A. G.
Inst : Not given
Title : The Role of Interoception in Digestive Diseases

Orig Pub : Kazansk. med. zh., 1957, No 1, 24-30

Abstract : No abstract given

Card 1/1

TEREGULOV, A.G.

TEREGULOV, A.G., prof.; BOGOYAVLENSKIY, V.F., student VI kursa (Kazan')

Forms of anemia resembling pernicious anemia. Klin.med. 35 [i.e.34] no.1 Supplement:25 Ja '57. (MIRA 11:2)

1. Iz kafedry gospital'noy terapii (zav. - zasluzhennyy deyatel' nauki prof. A.G.Teregulov) Kazanskogo meditsinskogo instituta.
(ANEMIA)

TEREGULOV, A.G., professor (Kazan'); MAYANSKAYA, K.A., doktor meditsinskikh nauk (Kazan')

Motor disorders of the biliary tract according to clinical and roentgenological data. Klin. med. 35 no.2:57-62 F '57
(MLRA 10:4)

1. Iz gospital'noy terapevticheskoy kliniki (dir.-zasluzhennyy deyatel' nauki prof. A.G. Teregulov) Kazanskogo meditsinskogo instituta.
(BILE DUCTS, dis.
motor disord., clin. aspects & x-ray diag.)

TEREGULOV, A.G., prof.

Tatar A.S.S.R. Society of Therapeutists. Kaz. med. zhur. no. 4:84-85 Jl-Ag '60. (MIRA 13:8)

1. Predsedatel' Obshchestva terapevtov Tatarskoy ASSR.
(TATAR A.S.S.R.—THERAPEUTIC SOCIETIES)

TEREGULOV, A.G., prof. (Kazan')

Problem of respiration regulation and the functional diagnosis of the lungs. Kaz. med. zhur. 41 no.3:10-17 My-Je '60. (MIRA 13:9)
(RESPIRATION)

TEREGULOV, A.G.; BOGOYAVLENSKIY, V.F.

Staining of blood lipoproteins separated by means of paper electrophoresis. Vop. med. khim. 7 no.6:639-642 N-D '61. (MIRA 15:3)

1. Chair of Therapy No.1, Medical School, Kazan.
(LIPOPROTEINS)
(PAPER ELECTROPHORESIS)
(STAINS AND STAINING (MICROSCOPY))

RUSETSKIY, Iosif Iosifovich; TEREGULOV, Abdul-Vali Khusanovich; VLADIMIRTSEV, V.P., red.; TROFIMOVA, A.S., tekhn. red.

[Brief manual on Chinese acupuncture]Kratkoe rukovodstvo po kitaiskomu igloukalyvaniiu. Kazan', Tatarskoe knizhnoe izd-vo, 1962. 130 p. (MIRA 16:5)

(ACUPUNCTURE)

TEREGULOV, A.G.; ABDRAKHMANOV, M.I.; BOGOYAVLENSKIY, V.F:; LOGVINOV, I.A.

Determination of basal meatabolism and the function of the lungs with the AOOZ-M apparatus. Kaz.med.zhur. no.4:94-96 Jl-Ag '62'. (MIRA 15:8)

1. Klinika gospital'noy terapii No.1 (zav. - prof. A.G.Teregulov) Kazanskogo meditsinskogo instituta i Samostoyatel'noye konstruktorsko-tekhnologicheskoye byuro po proyektirovaniyu meditsinskikh i fiziologicheskikh priborov (nachal'nik - I.M.Shpakov).
(RESPIRATORS) (BASAL METABOLISM) (LUNGS)

TEREGULOV, A.G.; BOGOYAVLENSKIY, V.F. (Kazan')

Practical significance of the Weltmann test in atherosclerosis.
Terap. arkh. 35 no.2:77-82 '63. (MIRA 16:10)
(ARTERIOSCLEROSIS) (BLOOD—COAGULATION)

...(d)/EWT(m)/EWP(w)/EWP(j)/T/EWP(k) IJP(c) WW/EM/RM

AP6003189 SOURCE CODE: UR/0147/65/000/004/0103/0108

AUTHOR: Teregulov, A. G.

ORG: none

TITLE: Bending and stability of a three layer plate of unsymmetrical structure with an elastic viscous filler

SOURCE: IVUZ. Aviatsionnaya tekhnika, no. 4, 1965, 103-108

TOPIC TAGS: stress analysis, plastic filler

ABSTRACT: The article treats the problem of the bending of a three layer plate of unsymmetrical structure which is infinite in one direction and is compressed in a transverse direction by a steady load (see Fig. 1)

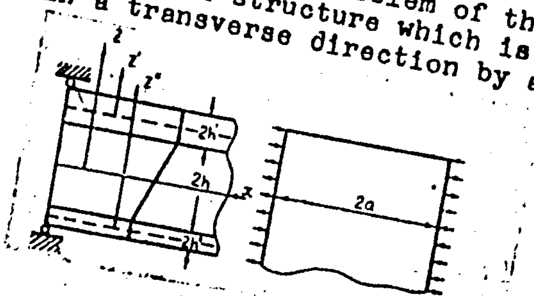

Figure 1.

Card 1/2

... the ... filler; ... solved metho... has: 20 formulas ...

SUB CODE: 20/ 11/ SUBM DATE: UDC: 539.3

Card 2/2 mjs

L 02361-67 EWT(d)/EWT(m)/EWP(w)/EWP(v)/EWP(k) IJP(c) WW/EM/RM

ACC NR: AR6021886 (N) SOURCE CODE: UR/0124/66/000/003/V027/V027

32

B

AUTHOR: Teregulov, A. G.

TITLE: The stability of sandwich shells with a light filler which deforms with time

SOURCE: Ref. zh. Mekhanika, Abs. 3V202

REF SOURCE: Sb. Issled. po teorii plastin i obolochek. No. 3. Kazan', Kazansk. un-t, 1965, 307-313

TOPIC TAGS: cylindric shell structure, cylindric shell, sandwich shell, shell stability

ABSTRACT: The stability of an oblique cylindrical shell under the effects of axial compression and normal external pressure was studied. It is assumed that only the filler has the hereditary property of linear creep with one creep center whose resolvent is expressed by the Yu. N. Rabotnov fractional exponential function. The obtained equation makes it possible to determine the critical load as a function of time. Analogous results were obtained in a study of local stability of a spherical shell under constant uniform external pressure. A table

Card 1/2

L 02361-67

ACC NR: AR6021886

is presented which gives positive roots of the equation

$$\sum_{n=0}^{\infty} \frac{\omega^n [n(1+\alpha)+\alpha]}{\Gamma[(n+1)(1+\alpha)]} = 0$$

as a function of the singularity parameter $[\alpha (0.1 < \alpha < 0.9)]$ of Yu. N. Rabotnov, which facilitates the practical application of the author's results. M. I. Rozovskiy. [Translation of abstract] [FM]

SUB CODE: 20/

Card 2/2 fdh

L 27979-66 EWP(w) EM

ACC NR: AP6017673 SOURCE CODE: UR/0198/65/001/007/0057/0062

31
B

AUTHOR: Teregulov, A. G. (Kazan')

ORG: Kazan' Institute of Chemical Technology (Kazanskiy khimiko-tekhnologicheskiy institut)

TITLE: Bending of three-layer plates with viscoelastic filler

SOURCE: Prikladnaya mekhanika, v. 1, no. 7, 1965, 57-62

TOPIC TAGS: material deformation, equation of state, flat plate

ABSTRACT: The article solves problems involved in the bending of a rectangular three-layer plate and a circular three-layer plate of symmetric structure under a transverse load which is a function of time. It is assumed that the supporting layers of the plates are made of material which conforms to Hooke's law. For the filler, which is considered to be made of a material lighter than that of the supporting layers, the equation of state used is the law of linear viscoelastic deformation.

Equations of quasiequilibrium for the rectangular plate take the form

$$2\left[D_0\nabla^2\nabla^2 w - K'h(h'+h)\nabla^2\left(\frac{\partial\varphi_1}{\partial x}+\frac{\partial\varphi_2}{\partial y}\right)\right]-P=0;$$

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L 27979-66

ACC NR: AP6017673

0

$$\frac{\partial^2\varphi_1}{\partial x^2}+\frac{1-\nu'}{2}\cdot\frac{\partial^2\varphi_1}{\partial y^2}+\frac{1+\nu'}{2}\cdot\frac{\partial^2\varphi_2}{\partial x\partial y}-\frac{\exp\left(-\frac{t}{n}\right)}{2K'h}\left[M_u\varphi_1(0)+\right.$$

$$\left.+\frac{1}{n}\int_0^t\exp\left(\frac{\tau}{n}\right)(M_r\varphi_1+nM_u\dot{\varphi}_1)\,d\tau\right]-\frac{h'+h}{h}\nabla^2\frac{\partial w}{\partial x}=0;$$

$$\frac{1+\nu'}{2}\cdot\frac{\partial^2\varphi_1}{\partial x\partial y}+\frac{1-\nu'}{2}\cdot\frac{\partial^2\varphi_2}{\partial x^2}+\frac{\partial^2\varphi_2}{\partial y^2}-\frac{\exp\left(-\frac{t}{n}\right)}{2K'h}\left[M_u\varphi_2(0)+\right.$$

$$\left.+\frac{1}{n}\int_0^t\exp\left(\frac{\tau}{n}\right)(M_r\varphi_2+nM_u\dot{\varphi}_2)\,d\tau\right]-\frac{h'+h}{h}\nabla^2\frac{\partial w}{\partial y}=0.$$

while those for the circular plate take the form

$$D_0\nabla^2\nabla^2 w-\frac{K'h(h'+h)}{r}\nabla^2\left(\frac{d\varphi}{d\eta}+\frac{\varphi}{\eta}\right)-\frac{p}{2}=0;$$

Card 2/3

L 27979-66

ACC NR: AP6017673

$$\frac{d}{d\eta}\cdot\left(\frac{d\varphi}{d\eta}+\frac{\varphi}{\eta}\right)-\frac{r^2\exp\left(-\frac{t}{n}\right)}{K'h}\left[M_u\varphi(0)+\right.$$

$$\left.+\frac{1}{n}\int_0^t\exp\left(\frac{\tau}{n}\right)(M_u n\dot{\varphi}+M_r\varphi)\,d\tau\right]-\frac{h'+h}{h}r\nabla^2\frac{dw}{\partial\eta}=0;$$

$$\nabla^2(\ldots)=\frac{1}{r^2}\cdot\frac{1}{\eta}\cdot\frac{d}{d\eta}\cdot\eta\frac{d}{d\eta}(\ldots).$$

In formulating these equations use is made of Kirchhoff's hypotheses for supporting layers, as well as hypotheses on the constancy of shear in a filler and the constancy of normal deflection according to the plate thickness. Orig. art. has: 23 formulas. [JPRS]

SUB CODE: 20 / SUBM DATE: 10Apr64 / ORIG REF: 002

Card 3/3

TEREGULOV, A.Kh., dotsent

Professor I.I. Rusetskii. Kaz. med. zhur. no. 2:86-88 Mr-Ap '61.
(MIRA 14:4)

(RUSETSKII, IOSIF IOSIFOVICH, 1891-)

SOV/123-59-16-64456

Translation from: Referativnyy zhurnal. Mashinostroyeniye, 1959, Nr 16, p 117 (USSR)

AUTHOR: Teregulov, A.U.

TITLE: Centerless Polishing of Shafts

PERIODICAL: Prom.-ekon. byul. Sovnarkhoz Permsk. ekon. adm. r-na, 1958, Nr 7, 28

ABSTRACT: The article has not been reviewed.

Card 1/1

TEREGULOV, D.Kh

A rational type of tube still. R. Ya. Susanov and D. Kh. Teregulov. *Azerbaidzhanskoe Neftyanoe Khozyaistvo* 1935, No. 2, 98-100.—The advantages and disadvantages of the Foster-Wheeler, Kellogg, Alco, Badger, Badger-Nersesov, Lummus and DeFlorez tube-still furnaces are discussed. It is claimed that the Badger-Nersesov and the Lummus furnaces are best for use in Russia. A. A. Bochtlingk

METALLURGICAL LITERATURE CLASSIFICATION

[illegible] PROCESSING

[illegible]

[illegible] detergents. [illegible] of the crude but the [illegible] by the use of new [illegible]

methods of [illegible]

MARTEM'YANOV, V., master sporta; OVSYANKIN, V., master sporta; PISKUNOV, V., master sporta; POCHERNIN, V., master sporta; TEREGULOV, D., master sporta

A new sports plane is needed. Kryl. rod. 16 no.2:11 F '65. (MIRA 18:3)

TEREGULOV, E.A.

Determination of cerebrospinal fluid pressure with apparatus for measurement of venous pressure. Kaz.med.zhur. 40 no.4:103 Jl-Ag '59. (MIRA 13:2)

1. Iz 2-go bol'nichno-poliklinicheskogo ob"yedineniya g. Bugul'my (glavvrach - A.P. Shchekotilo).
(CEREBROSPINAL FLUID)

TEREGULOV, E.A.; SHCHEKOTOLO, A.P.

Case of acute poisoning with pyrogallol. Kaz. med. zhur. no.1: 69-70 Ja-F '62. (MIRA 15:3)

1. Terapevticheskoye otdeleniye (zav. - O.V. Yeronina) 2-go bol'nichno-poliklinicheskogo ob"yedineniya Bugul'my (glavnyy vrach - A.P. Shchekotolo).

(PYROGALLOL—TOXICOLOGY)

TEREGULOV, G.I., professor, zasluzhennyy deyatel' nauki BASSR.

Results of prolonged investigation of the therapeutic value of the Yangan-Tau spa. Klin. med., 33 no.10:69-72 O '55. (MLRA 9:2)

1. Iz kafedry iliagnostiki i chastnoy patologii s terapiyey (zav. prof. G.N. Tereulov) Bashkirskogo meditsinskogo instituta (dir. dotsent N.F. Vorob'yev)
(BALNEOLOGY
Russia,
Yangan-Tau, ther. value)

BLYUMBERG, I.B.; ZYAZINA, T.M.; TEREGULOV, G.I.

New method of determining the sharpness of the photographic image.
Zhur.nauch.i prikl.fot.i kin. 7 no.4:268-271 Jl-Ag '62.
(MIRA 15:8)

1. Leningradskiy institut kinoinzhenerov (LIKI).
(Photographic sensitometry)

CP

TEREGULOV, G.N

11B

PROCESSES AND PROPERTIES INDEX

The testing of liver function by means of the administration of glycine. G. N. Teregulov. *Therap. Arch.* (U. S. S. R.) 15, 804-10(1937); *Chem. Zentr.* 1938, II, 2143.—It is possible to detect the presence of an injury to the liver by detg. the amino acids in the blood just before the intravenous injection of 10 cc. of a 12% glycine soln. and again 15, 30, and 60 min. after the injection. When the condition of the liver is sound there is usually no change in the amino acid level of the blood following the introduction of glycine or only a slight drop in the level. In diseased conditions of the liver there is a rise in the amino acid content of the blood which is approx. proportional to the seriousness of the disorder. However, in some cases with definite liver disorders, which showed an abnormally high amino acid level after fasting, a fall in the amino acid level was observed after the injection of glycine. Moreover, in the case of exptl. animals in which liver disorders were experimentally produced by the use of P or arsphenamine, an increase in the amino acid level was observed after glycine injection. The method of glycine injection for testing the functioning of the liver is to be preferred to the bilirubin and galactose methods, because in using the bilirubin method the whole reticuloendothelial system must be considered and when the galactose method is used, the pancreas must function properly. M. G. Moore

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 07/16/2001 CIA-RDP86-00513R001755320007-1"

AKHMETOVA, B.Kh.; TEREGULOV, G.N.

Treatment with nitranol stenocardia. Khim. i med. no.16:67-70 '61. (MIRA 17:8)

TEREGULOV, G.R., starshiy nauchnyy sotrudnik

Effectiveness of mixed silage made from potatoes. Zhivotnovodstvo 20 no.9:25-27 S '58. (MIRA 11:10)

1. Tatarskaya respublikanskaya gosudarstvennaya sel'skokhozyaystvennaya opytnaya stantsiya.
(Ensilage) (Potatoes)

TEREGULOV, G.R., zootekhnik; ZAKIR'YANOV, Sh.Kh., zootekhnik; MENDELEVICH, M.M., red.; LODVIKOVA, A.S., red.; SAGITOVA, S.G., tekhn.red.

[Experience of leading swine breeders of the Tatar A.S.S.R.; based on materials of the Conference of the Swine Breeders of the Tatar A.S.S.R.] Opyt peredovykh svinovodov Tatarii; po materialam respublikanskogo soveshchaniia svinovodov. Kazan', Tatarskoe knizhnoe izd-vo, 1960. 68 p. (MIRA 14:1)

(Tatar A.S.S.R.--Swine)

TEREGULOV, I., inzh.

Enriched peat fertilizers. Nauka i pered.op.v sel'khoz. 9 no.11:54-55 N '59. (MIRA 13:3)
(Peat)

16(1)

AUTHOR: Teregulov, I.G. SOV/140-59-4-21/26

TITLE: The Convergence of the Method of Successive Approximations in a Problem of the Non-Linear Theory of Shells

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 4, pp 168 - 177 (USSR)

ABSTRACT: The author reduces the system of two differential equations, by which the bending of a hollow spherical segment is described, to integral equations; these are investigated with functional-analytic methods as to the existence of a solution and the convergence of a successive approxomation method. In the special case the linear solution for a round plate is obtained from /‾Ref 5_7 .
The paper was written under guidance of Professor Kh.M. Mushtari. The author mentions M.Ya.Krasnosel'skiy and I.I. Vorovich.

Card 1/2

The Convergence of the Method of Successive SOV/140-59-4-21/26
Approximations in a Problem of the Non-Linear Theory of Shells

There are 6 references, 4 of which are Soviet, 1 American, and 1 Chinese.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskiy institut imeni S.M. Kirova (Kazan' Chemo-Technological Institute imeni S.M. Kirov)

Card 2/2

[illegible]

AUTHORS: Mushtari, Kh.M., and [illegible] (Kazan')

TITLE: Theory of Sloping Orthotropic Shells [illegible]

PERIODICAL: Izvestiya Akademii nauk SSSR, Otdeleniye tekhnicheskikh nauk, Mekhanika i mashinostroyeniye, 19[illegible], Nr [illegible], pp 60-67 (USSR)

ABSTRACT: The paper is a continuation of previous work (Ref 1). The mathematical equations of the problem are established in section 1 (especially Eqs (1.1), (1.2) and (1.20) - (1.23) and certain terms containing the normal stress in the z direction are shown to be numerically negligible. The boundary conditions are stated in section 3 (especially Eqs (3.1), (3.2) and (3.5)) and the simplified equations specialised to the case of a clamped isotropic shell, for which expressions are derived giving the maximum strain according to the momentless theory ($e_1^{(1)}$, Eq (4.5)), and according to the Kirchhof hypothesis ($e_1^{(2)}$, Eq (4.7)). A numerical comparison between these equations is tabulated on page 67; in one instance (at the bottom of page 67) the difference amounts to 20%. In this table

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S/179/59/000/03/009/039
E081/E141

Theory of Sloping Orthotropic Shells of Medium Thickness

ν = Poisson's ratio, $k_2 = 1/R_2$ (R_1 and R_2 are the principal radii of curvature), $2h$ = shell thickness.

There are 1 table and 3 Soviet references.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskiy institut (Kazan' Chemico-Technological Institute)

SUBMITTED: June 23, 1959

Card 2/2

TEREGULOV, I.G.

report presented at the 1st All-Union Congress of Theoretical and Applied Mechanics, Moscow, 27 Jan - 3 Feb '60.

201. E. Ia. Mikhailov (Moscow): An experimental study of the load carrying capacity of thin-walled nickel tubes subjected to various combinations of tension, torsion, and internal pressure.

202. S. G. Mikhlin (Leningrad): Variational methods in the theory of elasticity.

203. A. A. Movchan (Moscow): The stability of motions of solids -- Lagrange's theorem for solids and its inversion.

204. A. A. Movchan (Moscow): Axisymmetric hypersonic flutter of a circular cylindrical shell.

205. N. F. Morozov (Leningrad): On the uniqueness of the solution of the problem of large deflections of a circular plate under rotationally symmetric loading.

206. G. M. Mikhadze (Tbilisi): The determination of the deformation of trusses without diagonals.

207. Kh. M. Mushtari, I. G. Teregulov (Kazan): A theory of moderately thick plates and shells.

208. A. G. Nazarov (Erevan): Some problems in the theory of seismic stability.

209. U. K. Nigul (Tallin): Vibrations of an elastic circular cylindrical shell under concentrated impact loading.

210. U. K. Nigul (Tallin): More accurate equations of motion for circular cylindrical shells.

211. V. A. Nikitin (Leningrad): Approximate treatment of cylindrical shells under concentrated loads.

212. S. N. Nikiforov (Moscow): Redistribution of reactions at the edge of a simply supported rectangular plate under gradually increasing loading.

213. W. Nowacki (Warsaw): Some dynamical problems of thermoelasticity.

214. S. K. Noskov (Moscow): Investigation of the viscous behavior of elastic, visco-plastic materials in vibrations.

215. Ia. L. Nudelman, L. A. Kiselev (Odessa): Problems of the non-linear theory of elasticity.

216. I. F. Obraztsov (Moscow): An application of the variational method to the design of structures.

217. K. I. Ogurtsov (Leningrad): Complete computation of a wave field in homogeneous elastic media with parallel plane boundaries.

218. R. Ohaba (Bagdad): The method of electroplating and its applications.

219. W. Olszak (Warsaw): Two-dimensional problems in the theory of plasticity of non-homogeneous and anisotropic media.

220. V. A. Osipov (Moscow): The state of stress in a deformed curved bar.

221. V. Ia. Pavilainen (Leningrad): A membrane theory for a toroidal shell.

222. V. P. Pavlov (Moscow): Creep, elastic properties and anisotropy of plastic lubricants.

223. O. V. Palchinskii (Kharkov): A practical method of designing reinforced concrete structures with reference to creep.

224. Ia. G. Panovko (Riga): The problem of structural damping.

225. P. I. Perlin (Moscow): An approximate method for solving elastic-plastic problems.

226. P. I. Perlin, L. A. Shofman (Moscow): Application of the theory of rigid, plastic solids to problems of metal forming.

227. A. S. Pelekh (Kiev): On the axisymmetric problem of the theory of elasticity.

228. B. E. Pobedria (Moscow): A method for studying the plane field of relative volume strains in solids.

229. G. Ia. Popov (Novosibirsk): The application of some new methods of the theory of integral equations to the solution of contact problems of the theory of elasticity.

230. V. A. Postnov (Leningrad): Free and forced vibrations of frames taking into account shear deformations and energy dissipation.

231. V.N. Potapov (Dnepropetrovsk): Investigation and calculation of internal friction in elastic members of vibrating machines.

232. W. Prager (Providence): An elementary discussion of definitions of stress rate.

233. N. I. Prigorovskii (Moscow): Photoelastic investigation of stresses in three-dimensional layered models.

TEREGULOV, I. G., Cand Phys-Math Sci -- (diss) "Theory of plates and shells." Kazan', 1960. 9 pp; (Ministry of Higher and Secondary Specialist Education RSFSR, Kazan' Order of Labor Red Banner State Univ im V. I. Ul'yanov-Lenin); 150 copies; price not given; (KL, 26-60, 150)

Teregulov, I. G.

BORK-/SKIY, P. V. PHASE I BOOK EXPLOITATION SOV/6206 25

Konferentsiya po teorii plastin i obolochek. Kazan', 1960.

Trudy Konferentsii po teorii plastin i obolochek, 24-29 oktyabrya 1960. (Transactions of the Conference on the Theory of Plates and Shells Held in Kazan', 24 to 29 October 1960). Kazan', [Izd-vo Kazanskogo gosudarstvennogo universiteta] 1961. 426 p. 1000 copies printed.

Sponsoring Agency: Akademiya nauk SSSR. Kazanskiy filial. Kazanskiy gosudarstvennyy universitet im. V. I. Ul'yanova-Lenina.

Editorial Board: Kh. M. Mushtari, Editor; F. S. Isanbayeva, Secretary; N. A. Alumyae, V. V. Bolotin, A. S. Vol'mir, N. S. Ganiyev, A. L. Gol'denveyzer, N. A. Kil'chevskiy, M. S. Kornishin, A. I. Lur'ye, G. N. Savin, A. V. Sachenkov, I. V. Svirskiy, R. G. Surkin, and A. P. Filippov. Ed.: V. I. Aleksagin; Tech. Ed.: Yu. P. Semenov.

PURPOSE: The collection of articles is intended for scientists and engineers who are interested in the analysis of strength and stability of shells.

Card 1/14

75

SOV/6206

Transactions of the Conference (Cont.)

COVERAGE: The book is a collection of articles delivered at the Conference on Plates and Shells held in Kazan' from 24 to 29 October 1960. The articles deal with the mathematical theory of plates and shells and its application to the solution, in both linear and nonlinear formulations, of problems of bending, static and dynamic stability, and vibration of regular and sandwich plates and shells of various shapes under various loadings in the elastic and plastic regions. Analysis is made of the behavior of plates and shells in fluids, and the effect of creep of the material is considered. A number of papers discuss problems associated with the development of effective mathematical methods for solving problems in the theory of shells. Some of the reports propose algorithms for the solution of problems with the aid of electronic computers. A total of one hundred reports and notes were presented and discussed during the conference. The reports are arranged alphabetically (Russian) by the author's name.

Card 2/14

TEREGULOV, I.G. (Kazan')

State of a circular elastic plate under an axisymmetrical transverse load. Prikl. mat. i mekh. 25 no.5:927-930 S-O '61. (MIRA 14:10)

(Elastic plates and shells)

S/040/62/026/001/018/023
D237/D304

AUTHOR: Teregulov. I.G. (Kazan')

TITLE: On the variational theorem of the non-linear theory of elasticity

PERIODICAL: Akademiya nauk SSSR. Otdeleniye tekhnicheskikh nauk. Prikladnaya matematika i mekhanika, v. 26, no. 1, 1962, 169-171

TEXT: The author constructs the functional Eq.(1) where S_* = boundary of the part of a 3-dimensional space V_* occupied by a

$$J = \iiint_{V_*} Q^* \cdot u dV_* + \iint_{S_*} P^* \cdot u dS_* - \iiint_{V_*} \left\{ W_* + F_* + \frac{1}{2} \sigma_*^{ik} \partial_i u \cdot \partial_k u \right\} dV_* \qquad (1)$$

deformed body. In the volume V_* a parametrization is introduced x^i (i = 1, 2, 3) with a metric tensor g^*_{ik}. Vectors of body forces $\underline{Q}^*$ and of surface loads $\underline{P}_*$ are referred to the unit volume in V_* and unit surface on S_* respectively; $\underline{u}$ = displacement vector; $\sigma_*^{ik} = \sigma_*^{ki}$ = contravariant components of stress tensor relative to the unit surface on the deformed body: $F_* = F_*(\sigma_*^{ik})$, $W_* = W_*(\varepsilon^*_{ik})$ = function of deformation

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On the variational theorem ...

tensor $\varepsilon^{*}ik = \varepsilon^{*}ki$. The author then proposes and proves the following theorem: Out of all possible displacements $\underline{U}$ consistent with the geometrical configuration, stresses σ_{*}^{ik} compatible with statistical conditions within and on the body, and deformations $\varepsilon^{*}ik$, only those take place which result in a stationary value of the functional J. Hence, the relations of the non-linear theory of elasticity should result in $\delta J = 0$ and conversely, from $\delta J = 0$ all relations of the non-linear theory of elasticity should follow. There is 1 Soviet-bloc reference.

SUBMITTED: January 18, 1961

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30043
S/040/62/026/002/016/025
D299/D301

24.4200
10.6200

AUTHOR: ~~Teregulov, I.G.~~ (Kazan')

TITLE: On the construction of refined theories of plates and shells

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 2, 1962, 346 - 350

TEXT: A fairly general method is proposed for constructing refined theories of plates and shells, based on the generalized variational principle of nonlinear elasticity-theory (in an earlier work by the author); the proposed method resembles that of E. Reissner (Ref. 7: On the theory of bending of elastic plates. J. Math. Phys., 1944, v. 23). The variational principle states that only those displacements, stresses and strains are realized which give a stationary value to the functional

$$J = \iiint\limits_V \mathrm{Q}\mathbf{u}\, dV + \iint\limits_{S_{(p)}} \mathrm{P}_{(s)} \mathbf{u}\, dS + \iint\limits_{S_{(u)}} \sigma^{ik} \mathbf{r}_k n_i (\mathbf{u}_{(s)} - \mathbf{u})\, dS - \qquad (1.$$
$$- \iiint\limits_V \left\{W - \sigma^{ik} \left[\varepsilon_{ik} - \frac{1}{2} (\nabla_i u_k + \nabla_k u_i)\right]\right\} dV$$

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where Q is the vector of mass forces, W - the strain-energy density and n - the unit vector of the inner normal to the surface S. A formula is derived for the first variation of the functional δJ. The displacements, stresses and strains in the z-coordinate, are approximated by reduced forms, whereas the functions u, w, σ and ε which depend on x, are determined from the equation for δJ. Only plates are considered. From the equation for δJ, one obtains the equilibrium equation, the elasticity relations, and the stress-strain relations. In the equilibrium equation, the square of the derivative of the thickness with respect to the middle-plane coordinates, was neglected. The statical boundary-conditions and the geometrical ones are set up. Further simplifying assumptions are made with respect to a circular isotropic plate under symmetrical bending; the pertinent (simpler) relationships are obtained. The proposed method has the advantage of being expedient; but the equilibrium equation obtained (or its simplified version) can be solved only by means of modern computers; thereby the method of finite differences can be used. The variational equation makes it possible to solve problems with boundary conditions which change in character with the thickness of the plate (or shell); thus, a circular plate may be rigidly

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clamped at one boundary section, and free of loads at another. There are 9 references: 7 Soviet-bloc and 2 non-Soviet-bloc. The references to the English-language publications read as follows: W.Z. Chien. The intrinsic theory of thin shells and plates. Quart. of Appl. Math. 1944, v. I, no. 4, no. 1, 2, v. II; E. Reissner, On the theory of bending of elastic plates. J. Math. Phys., 1944, v.23.

SUBMITTED: September 15, 1961

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38087
S/040/62/026/003/010/020
D407/D301

24.4200
10.7200

AUTHOR: Teregulov, I.G. (Kazan')

TITLE: On variational methods of solving problems of constant-rate (steady-state) creep of plates and shells under finite displacements

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 3, 1962, 492 - 496

TEXT: The variational principle of virtual velocities is introduced for the case of finite displacements and small extensions, conditions of constant-rate creep being assumed. The principle is illustrated by the bending of a thin circular plate under conditions of creep. The power of the external surface loads P and mass forces Q on the virtual velocity variations δv, is denoted by δN

$$\delta N = \iint_S P \cdot \delta v dS + \iiint_V Q \cdot \delta v dV \tag{1.1}$$

where S is the boundary of the volume V, occupied by the body. The power of the internal stresses σ_{ik} on the variations of the strain

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rate of creep $\delta\xi_{ik}$, is denoted by δM,

$$\delta M = \iiint_V \sigma^{ik}\delta\xi_{ik}\,dV \tag{1.2}$$

The variational principle is formulated as follows: among all the virtual velocities, those take actually place which satisfy the condition

$$\delta J = 0, \qquad J = M - N. \tag{1.3}$$

After transformations, one obtains

$$\delta J = -\iiint_V \{\nabla_i(\sigma^{ik}\mathbf{r}_k^{\bullet}) + \mathbf{Q}\}\cdot\delta\mathbf{v}\,dV - \iint_S (\sigma^{ik}\mathbf{r}_k^{\bullet}n_i + \mathbf{P})\cdot\delta\mathbf{v}\,dS \tag{1.9}$$

where ∇_i is the sign of the covariant derivative with respect to the metric g_{ik}, and n_i are the covariant components of the unit vector of the inner normal to S. If the constant-rate creep follows a power law, then equation (1.3) becomes

$$\delta\iiint_V \frac{H^{\mu+1}}{(1+\mu)B^{\mu}}\,dV - \delta\iiint_V \mathbf{Q}\cdot\mathbf{v}\,dV - \delta\iint_S \mathbf{P}\cdot\mathbf{v}\,dS = 0 \tag{1.10}$$

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On variational methods of solving ...

where B is an experimentally determined function of time and temperature, μ is a constant, and H is the intensity of the shear strain rate. In constructing the variational equations for thin plates and shells, the author proceeds from the ordinary assumptions with respect to the magnitude of the normal stress-components and the absence of the shears ε_{13} and ε_{23}. For thin shells, the variational equation is

$$\delta \iint_{S_0} \int_{-h}^{h} \frac{H_*^{\mu+1}}{(1+\mu) B^{\mu}} dz dS_0 - \delta \iint_{S_+} \mathrm{P}_+ \{(v_z - h\nabla_a v) \rho^a + v\mathrm{m}\} dS \qquad (2.6)$$

$$\delta \iint_{S_-} \mathrm{P}_- \{(v_z + h\nabla_a v) \rho^a + v\mathrm{m}\} dS_0 - \delta \int_C \int_{-h}^{h} \mathrm{P}_c \{(v_z - z\nabla_a v) \rho^a + v\mathrm{m}\} dz\, dC = 0$$

(2.6)

where 2h = const. is the thickness. Further, a circular plate of radius r is subjected to a transverse load q. The sought-for solution is approximated by the displacement functions which are the solution of the corresponding nonlinear problem of elasticity theory. In this case, the variational equation (2.6) assumes the form

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$$\delta\iint_{S_0}\int_{-h}^{h}\frac{B^{-\mu}}{\mu+1}H_{*}^{\mu+1}\,dz\,dS_0-\delta\iint_{S_0}q\dot{w}\,dS_0=0 \qquad (3.4)$$

where w are the displacements. A comparison of curves, constructed by the formulas of linear- and nonlinear theory, respectively, shows discrepancies which cannot be neglected. The obtained variational equation (2.6) permits solving not only the problem of bending, but also the stability problem under conditions of constant-rate creep. There are 2 figures. [Abstractor's note: Apparent omission of the minus sign between the second- and third term of Eq. (2.6)].

SUBMITTED: December 11, 1961

40111
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D409/D301

10,7300

AUTHOR: Teregulov, I.G. (Kazan')

TITLE: Transient creep of thin plates and shells under small displacements

PERIODICAL: Prikladnaya matematika i mekhanika, v. 26, no. 4, 1962, 730 - 735

TEXT: A method is proposed for determination of the displacements and strains under conditions of transient creep. The method involves the formulation of a variational principle. For the strain rate of creep $\dot{\xi}_{ik}$ one obtains

$$2\dot{\xi}_{ik} = \nabla_i \dot{v}_k + \nabla_k \dot{v}_i, \quad \dot{v}_i = \frac{dv_i}{dt}, \quad \dot{\xi}_{ik} = \frac{dp_{ik}}{dt} \tag{1.2}$$

The variational principle is formulated as follows: Among all the states, allowed by the kinematic constraints (1.2) inside the body, and by the kinematic constraints at the boundary, only those states actually occur, which minimize the functional

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Transient creep of thin plates ...

$$J = \iiint_V A^{-\mu}\Gamma^{d\mu}\frac{H^{1+\mu}}{1+\mu}\,dV - \iiint_V \mathrm{Q}\cdot\dot{\mathrm{v}}\,dV - \iint_S \mathrm{P}\cdot\dot{\mathrm{v}}\,dS \quad \left(\mu = \frac{1}{n}\right) \tag{1.6}$$

where A and n are constants, V is the volume, $\Gamma = \int_0^t H dt$, H is related to $\dot{\xi}_{ik}$, P denotes the surface loads and Q the mass forces. The necessary and sufficient condition is found for the functional J to reach an absolute minimum for the actual strain-rates. In order to write the functional J for thin plates and shells, simplifying assumptions are made. With these assumptions, the functional (1.6) is written, for thin plates and shells, in the form

$$J_* = \iint_S \int_{-h}^{h} A^{-\mu}\Gamma_*^{d\mu}\frac{H_*^{1+\mu}}{1+\mu}\,dz\,dS_0 \iint_{S_+} \mathrm{P}_+\{(\dot{v}_\alpha - h\dot{w}_\alpha)\rho^\alpha + \dot{v}_3\mathrm{m}\}\,dS_0 - \tag{2.5}$$

$$-\iint_{S_-} \mathrm{P}_-\{(\dot{v}_\alpha + h\dot{w}_\alpha)\rho^\alpha + \dot{v}_3\mathrm{m}\}\,dS_0 - \int_L \int_{-h}^{h} \mathrm{P}_L\{(\dot{v}_\alpha - z\dot{w}_\alpha)\rho^\alpha + \dot{v}_3\mathrm{m}\}\,dz\,dL$$

where

$$\Gamma^* = \int_0^t H_* dt, \quad H_*^2 = \frac{2}{3}\{\dot{\xi}_{\alpha\beta}\dot{\xi}^{\alpha\beta} + \dot{\xi}_\lambda^\lambda \dot{\xi}_\gamma^\gamma\} \tag{2.6}$$

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Transient creep of thin plates ...

2h denotes the shell thickness, L the boundary of the middle surface, P_L the load vector, P_+ and P_- the loads at the surfaces S_+ ($z = h$) and S_- ($z = -h$). The functional (2.5) is used for the solution of the creep problem of a rigidly clamped circular plate under a uniform transverse pressure q. The above method can be used for determination of the displacements and strains under transient creep conditions. The stresses however, cannot be determined by this method. In order to determine the stresses, the author uses L.M. Kachanov's method, based on the variational principle of the virtual variations of the strained state. This principle is stated and proved. After calculations, one obtains the stress distribution under conditions of transient creep.

SUBMITTED: January 20, 1962

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S/020/62/142/003/011/027
B112/B102

24.4200

AUTHOR: Teregulov, I. G.

TITLE: Variational methods in the non-linear theory of elasticity

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 142, no. 3, 1962, 568-571

TEXT: Varying the integral

$$I = \iiint\limits_V \mathbf{Q}\mathbf{u}\, dV + \iint\limits_{S_p} \mathbf{P}_S \mathbf{u}\, dS + \iint\limits_{S_u} \sigma^{ik} \overset{*}{\mathbf{r}}_k n_i (\mathbf{u}_S - \mathbf{u})\, dS - \qquad (1)$$

$$- \iiint\limits_V \left\{ W - \sigma^{ik} \left[\overset{*}{\varepsilon}_{ik} - \frac{1}{2} (\overset{*}{\mathbf{r}}_i \partial_k \mathbf{u} + \overset{*}{\mathbf{r}}_k \partial_i \mathbf{u} - \partial_i \mathbf{u} \partial_k \mathbf{u}) \right] \right\} dV.$$

with respect to the quantities, u, ε^*, and σ (translation, deformation, and stress), the author derives all the relations of the non-linear theory of elasticity. The index * indicates deformation. Q and P_S denote volume forces and surface forces, respectively. δP_S and δQ are assumed to be zero. N. A. Alu[illegible]e (Prikl. matem. i mekh., 14, v. 1 and 2 (1950)), L. Ya. Aynola (Tr. Tallinsk. politekhn. inst., ser. A, No. 104 (1957)),

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Variational methods in the...

and K. Z. Galimov (Uch. zap. Kazansk. gos. univ., 115, kn. 12, 111 (1955), 109, kn. 1, 35 (1949)) are referred to. There are 9 references: 5 Soviet and 4 non-Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Kazanskogo filiala Akademii nauk SSSR (Physicotechnical Institute of the Kazan' Branch of the Academy of Sciences USSR)

PRESENTED: January 26, 1961, by Yu. N. Rabotnov, Academician

SUBMITTED: January 22, 1961

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